

CLAIMS

What is claimed is:

1. The method of providing forward error
5 correction for data services using a parallel
concatenated convolutional code which is a Turbo Code
comprising of a plurality of eight-state constituent
encoders wherein a plurality of data block sizes are used
in conjunction with said Turbo Code.
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2. The method of Claim 1 wherein at least one
of the plurality of eight-state constituent codes has a
transfer function equal to $G(D)=[1, (1+D+D^3)/(1+D^2+D^3)]$.
- 15 3. The method of Claim 2 wherein the Turbo
Code comprises two constituent codes, the Turbo Code
enabling a minimum code rate equal to 1/3.
- 20 4. The method of Claim 3 wherein a plurality
of code rates greater than or equal to 1/3 are provided
by the Turbo Code by puncturing one or more output coded
bits from the two constituent encoders.
- 25 5. The method of Claim 1 wherein at least one
of the plurality of eight-state constituent codes has a
transfer function $G(D)=[1, (1+D+D^3)/(1+D^2+D^3),$
 $(1+D+D^2+D^3)/(1+D^2+D^3)]$.
- 30 6. The method of Claim 5 wherein the Turbo
Code consists of two constituent codes, the Turbo Code
enabling a minimum code rate equal to 1/5.
- 35 7. The method of Claim 6 wherein a plurality
of code rates greater than or equal to 1/5 are provided
by the Turbo Code by puncturing one or more output coded
bits from the two constituent encoders.

8. The method of Claim 1 wherein at least one of the plurality of eight-state constituent codes has a transfer function $G(D)=[1, (1+D^2+D^3)/(1+D+D^3)]$.

5 9. The method of Claim 8 wherein the Turbo Code comprises two constituent codes, the Turbo Code enabling a minimum code rate equal to $1/3$.

10 10. The method of Claim 9 wherein a plurality of code rates greater than or equal to $1/3$ are provided by the Turbo Code by puncturing one or more output coded bits from the two constituent encoders.

15 11. The method of Claim 10 wherein the Turbo Code consists of two constituent codes, the Turbo Code enabling a minimum code rate equal to $1/5$.

20 12. The method of Claim 11 wherein a plurality of code rates greater than or equal to $1/5$ are provided by the Turbo Code by puncturing one or more output coded bits from the two constituent encoders.

25 13. The method of Claim 1 wherein at least one of the plurality of eight-state constituent codes has a transfer function $G(D)=[1, (1+D^2+D^3)/(1+D+D^3), (1+D+D^2+D^3)/(1+D+D^3)]$.